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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,650	02/28/2002	Leonid Merkoullovitch	11483-159	2480
1059 7590 03/09/2007 BERESKIN AND PARR 40 KING STREET WEST BOX 401 TORONTO, ON M5H 3Y2 CANADA			EXAMINER TROTTER, SCOTT S	
			ART UNIT 3694	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/09/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/084,650

Applicant(s)

MERKOULOVITCH ET AL.

Examiner

Scott S. Trotter

Art Unit

3694

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 04/04/2002
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Information Disclosure Statement

1. An initialed and dated copy of Applicant's IDS form 1449 filed 04/04/2002, is attached to the instant Office action.

Claim Rejections - 35 USC § 101 Utility

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A tangible result is required to satisfy 35 U.S.C. 101 utility requirement claims 1-9 produce no results beyond the esoteric manipulations of a computer.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3694

5. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Microsoft Excel 2000 in view of Browne et al. (U.S. PG-Pub 2003/0014356 A1).

As for claim 1:

Microsoft Excel teaches a random number generator that can be configured to provide one of many different kinds of random distributions or even a fixed pattern if needed. (See *Microsoft Excel 2000 Bible Quick Start, Pages 651 and 652.*) Excel can provide many numbers fitting a desired distribution at once. (See *top of page 652.*) Official Notice is taken that it is old and well known in the art to write results to memory and then read them from memory. As for adding operators to the results of a function in Excel it is one of the prime reasons for the existence of spread sheet programs an obvious example is Grand Total which is the sum of the sub-totals. Excel does not teach explicitly teach producing a sequence using a random distribution but Browne teaches producing a sequence using a random distribution which can be combined with Excel's ability to produce a random distribution and ability to have functions operate on that distribution to produce a sequence. (See *Browne Figure 3.*) It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Excel for the purpose of generating a random sequence of Browne due to the widespread availability of Excel making it a very easy tool to apply to data analysis problems which is what Browne is intended to solve.

As for claim 2:

Art Unit: 3694

The generator as claimed in claim 1, wherein said generator is adapted to produce elements of either a deterministic or stochastic sequence. (*See Browne Paragraph 0006.*)

As for claim 3:

The generator as claimed in claim 1, wherein said other operand is selected from the following group: a generator; and objects of compatible type such that said expression is defined. Official Notice is taken that Excel allows functions that call other functions. That fulfills this limitation.

As for claim 4:

The generator as claimed in claim 1, wherein said expression is an arithmetic expression comprising one or more of the arithmetic operations selected from the following group: addition, subtraction, multiplication, and division. Official Notice is taken that Excel can incorporate addition, subtraction, multiplication, or division.

Fulfilling this limitation.

As for claim 5:

Excel provides many functions including a random number generator function that can provide data that fits one of several potential distributions. Official Notice is also taken that Excel includes many functions that can transform numbers such as those dealing with imaginary numbers. Excel does not teach explicitly teach producing a sequence using a random distribution but Browne teaches producing a sequence using a random distribution. (*See Browne Figure 3.*)

As for claim 6:

Art Unit: 3694

The sequence that Browne teaches producing can be either random or stochastic (*See Paragraph 0006.*) therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have used stochastic sequences.

As for claim 7 and 9:

Official Notice is taken that Excel allows functions results to be inputs to other functions. Since generators, maps, accumulators, and composition operators are functions they can provide results to be inputs other functions including other instances of the same function.

As for claim 8:

Official Notice is taken that Excel allows inputs to functions to be the result of a function including such basic functions as addition, subtraction, multiplication, and division.

6. Claims 10, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne et al. (U.S. PG-Pub 2003/0014356 A1) in view of Microsoft Excel 2000.

As for claims 10, 11, 13 and 14 Browne teaches simulating financial portfolios but fails to teach making it a generalized function that can be called by simply giving it the proper arguments but Excel provides such analysis tools that can be called simply by providing the proper arguments and includes a random number generator that could support many of these analysis functions. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate scenario

Art Unit: 3694

analysis into Excel because of the analysis package that was already part of Excel whose focus included financial functions it would be obvious to add greater depth to that analysis.

As for claim 10 Browne teaches:

A method of simulating a portfolio of financial instruments over a plurality of scenarios, said method comprising the steps of:

(a) constructing a scenario generator, wherein said scenario generator produces elements of a sequence governed by a sequential process, wherein said scenario generator comprises a common generator interface, and wherein said common generator interface comprises a first function that generates the next element of said sequence and a second function that returns the element most recently generated by said first function; (*See Paragraph 0004.*)

(b) constructing one or more pricing maps, wherein each pricing map is associated with an instrument in a portfolio; (*See Paragraph 0004.*)

(c) composing said one or more pricing maps with said scenario generator to obtain a pricing generator; (*See Paragraph 0006.*) and

(d) using said pricing generator in performing a simulation to obtain prices for a plurality of instruments. (*See Paragraph 0006.*)

As for claim 11 Browne Teaches:

The method as claimed in claim 10, wherein step (c) comprises the steps of composing said one or more pricing maps to produce a composite pricing map, and

Art Unit: 3694

composing said composite pricing map with said scenario generator to obtain a pricing generator. (*See Paragraph 0006.*)

As for claim 13 Browne teaches:

A method of simulating a portfolio of financial instruments over a plurality of scenarios, said method comprising the steps of:

(a) constructing a stochastic sequence generator, wherein said stochastic sequence generator produces elements of a sequence governed by a sequential process, wherein said stochastic sequence generator comprises a common generator interface, where said common generator interface comprises a first function that generates the next element of said sequence and a second function that returns the element most recently generated by said first function; (*See Paragraph 0006.*)

(b) constructing one or more pricing accumulators, wherein each pricing accumulator is associated with an instrument in a portfolio; (*See Paragraph 0006.*)

(c) composing said one or more pricing accumulators with said stochastic sequence generator to obtain a pricing generator; (*See Paragraph 0006.*)

(d) using said pricing generator in performing a simulation to obtain prices for a plurality of instruments at each time step in a scenario; (*See Paragraph 0006.*) and

(e) repeating step (d) over a plurality of scenarios. (*See Paragraph 0006.*)

As for claim 14 Browne teaches:

The method as claimed in claim 13, wherein step (c) comprises the steps of composing said one or more pricing accumulators to produce a composite pricing

Art Unit: 3694

accumulator, and composing said composite pricing accumulator with said stochastic sequence generator to obtain a pricing generator. (See *Paragraph 0006*.)

7. Claims 12, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne, in view of Microsoft Excel 2000 and Mark to Future (Ron S. Dembo, Andrew R. Aziz, Dan Rosen, and Michael Zerbs, May 2000. This application claims priority to a November 21, 2001 provisional application but this publication is dated more than a year before that priority date making it prior art even if it is not by another.) While Browne and Excel 2000 address claims 10 and 13 (See claims 10 and 13 above) they don't address populating a Mark to Future cube but Mark to Fortune teaches it on pages 39 and 40. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the Mark to the Future methodology to solving a problem involving simulations to manage risk/reward management.

8. As for Claim 16 Browne, Microsoft Excel 2000, and Mark to Future address claim 15. Official Notice is taken that it is well in the art of computer programming to call a function more than once with different input values even recursively having a function call itself is well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to call the same function with different input values to solve a problem.

Conclusion

9. In the preface to Mark to Future it said that the methodology was at the heart of their software solution with the impression they had been selling it for awhile. If their methodology had been on sale in the United States for more than a year before their

Art Unit: 3694

effective filing date it would constitute an on sale bar to being granted a patent. While there is insufficient evidence to establish a sale date the applicant should consider whether it was on sale.

10. Any inquiry concerning this communication from the examiner should be directed to Scott S. Trotter, whose telephone number is 571-272-7366. The examiner can normally be reached on 8:30 AM – 5:00 PM, M-F.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell, can be reached on 571-272-6712.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

13. The fax phone number for the organization where this application or proceeding is assigned are as follows:

(571) 273-8300	(Official Communications; including After Final Communications labeled "BOX AF")
(571) 273-6705	(Draft Communications)

Scott Trotter
3/5/2007



MARY D. CHEUNG
PRIMARY EXAMINER